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NEWS 32 Nov 25 More calculated properties added to REGISTRY
NEWS 33 Dec 02 TIBKAT will be removed from STN
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L1 822 PARKIN OR PARKIN:

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=> s parkin2
L3 * PARKIN2

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L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN 2001167694 CAPLUS
DN 134203465
T Mouse ***parkin2*** cDNA and protein sequences for a transgenic animal model of Parkinson's and neurodegenerative diseases
IN Lubbert, Hermann
PA Bofrontera Pharmaceuticals GmbH, Germany
SO Eur. Pat. Appl. 62 pp
CODEN EPXXDW
DT Patent
LA English
FAN CNT 1
PATENT NO KIND DATE APPLICATION NO. DATE

PI EP 1081225 A1 20010307 EP 1999-116766
19990830
R AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, L, LU, NL, SE, MC PT.
IE, SI, LT, LV, FI, RO
WO 2001016176 A2 2001C308 WO 2000-EP8071
20000818
WO 2001016176 A3 2001C927
W CA, JP, US
RW AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC NL
PT, SE
EP 1208200 A2 20020529 EP 2001-956461
20000818
R AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, L, LU, NL, SE, MC PT.
E, FI, CY
PRAI EP 1999-116766 A 19990830
WO 2000-EP8071 W 20000818
AB This patent application claims mouse gene mPark2 (***parkin2***)
 nucleotide and protein sequences with mutations or deletions which
 correspond to mutations in the human gene PARK2 (***parkin***)
 sequences that cause Parkinson's disease. The application claims use of
 polynucleotide and protein sequences for diagnosis. The application also
 claims the construction of a transgenic non-human animal contg a mutated

DNA sequence and therefore expressing no or a less active or non-active parkin protein. The patent application further claims use of transgenic animals as a model for neurodegenerative diseases. The transgenic animals can be used for screening therapeutic agents evaluating treatments and examining disease pathology, and bred for other studies.

RE CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

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=> \$ park2
L4 54 PARK2

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L5 32 DUP REM L4 (22 DUPLICATES REMOVED)

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L6 ANSWER 1 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC
AN 2002 389444 BIOSIS
DN PREV20020389444
TI Molecular findings in familial Parkinson disease in Spain
AU Hoenicka, Janet (1); Vidal, Lidice; Morales, Blas; Ampuero, Israel; Jimenez-Jimenez, F. Javier; Berciano, Jose; del Ser, Teodoro; Jimenez, Adriano; Ruiz, Pedro G; de Yebenes, Justo G
CS (1) Banco de Tejidos para Investigaciones Neurologicas Facultad de Medicina, Universidad Complutense de Madrid, Avda Complutense s/n.
Pabellon III, Sotano, Madrid, 28040 jhoenicka@cbm.uam.es
Spain
SO Archives of Neurology, (June, 2002) Vol 59, No 6, pp 966-970
http://www.archneurol.com print
ISSN 0003-9942
DT Article
LA English
AB Background: Several genetic errors in alpha-synuclein (Park1) and ubiquitin carboxyl-terminal-hydrolase L1 (Park5) genes cause autosomal dominant familial Parkinson disease. Mutations in the parkin gene (***Park2***) are the major cause of autosomal recessive Parkinson disease. Objective: To analyze the clinical and molecular data of 19 Spanish kindreds (13 with recessive, 4 with dominant, and 2 with uncertain inheritance) who have familial Parkinson disease. Methods: We searched for the previously described mutations in Park1 and Park5 genes and for new or described mutations in ***Park2***. We used single-strand conformation polymorphism, direct sequencing, and restriction digestion of polymerase chain reaction (PCR)-amplified genomic DNA for this study. Results: None of these families have either Park1 or Park5 mutations. We found 5 different mutations in ***Park2*** gene in 5 of the families with recessive inheritance. To our knowledge, 2 of these mutations, V56E and C212Y, have not been previously reported. The other mutations found (***deletion*** of exons 3 and 5 and 225delA) have been described in other ethnic groups. Heterozygous carriers of a single ***Park2*** mutation either were asymptomatic or developed clinical symptoms in late adulthood or after brief exposure to haloperidol therapy. Conclusions: Mutations in ***Park2*** gene account for 38% of the families with

recessive parkinsonism in Spain. We found 2 cases of simple heterozygous ***Park2*** mutation carriers that developed clinical symptoms either in late adulthood or after brief exposure to parkinsonizing agents. Thus, hereditary Parkinson disease has more variable clinical phenotype and molecular defects than previously thought since heterozygous mutations could be a risk factor for parkinsonism.

L6 ANSWER 2 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC
AN 2000 495715 BIOSIS
DN PREV20000495836
TI Autosomal recessive early-onset parkinsonism with diurnal fluctuation
Clinicopathologic characteristics and molecular genetic identification
AU Yamamura, Yasuhiro (1); Hattori, Nobutaka; Matsumine, Hiroto; Kuzuhara, Shigeaki; Mizuno, Yoshikuni
CS (1) Institute of Health Sciences, Hiroshima University School of Medicine, Kasumi 1-2-3, Minami-ku, Hiroshima Japan
SO Brain & Development, (September, 2000) Vol 22, No Supplement 1, pp S87-S91 print
ISSN 0387-7604
DT Article
LA English
SL English
AB Autosomal recessive early-onset parkinsonism with diurnal fluctuation (AR-EPDF, syn. autosomal recessive juvenile parkinsonism, ***PARK2***) is one of the hereditary parkinsonian syndromes. We examined subjects consisting of 43 patients from 22 families with AR-EPDF. The clinical features were relatively homogeneous, including the average age at onset of 26.1 years, beginning with dystonic gait disturbance, diurnal fluctuation of the symptoms (sleep benefit) unrelated to medication, dystonia (mainly foot dystonia), hyperactive tendon reflex, remarkable effect of levodopa and other antiparkinsonism drugs, susceptibility to dopa-induced dyskinesia, mild autonomic symptoms, absence of dementia, and slow progression of disease. Some patients had hysterical character or psychic symptoms provoked by medication. Pathologic study revealed neuronal loss in the substantia nigra pars compacta and locus caeruleus without Lewy body formation. We performed extensive molecular genetic analysis of the parkin gene in 16 families to identify a total of six different ***deletional*** mutations. In AR-EPDF loss of newly discovered 'Parkin' protein is responsible for selective degeneration of the pigmented neurons in the substantia nigra and locus caeruleus. Compared with autosomal dominant Parkinson's disease, AR-EPDF appears to be more prevalent and present in several ethnic groups.

L6 ANSWER 3 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC
AN 2000 362925 BIOSIS
DN PREV20000362925
TI Parkin ***deletions*** in a family with adult-onset, tremor-dominant parkinsonism: Expanding the phenotype
AU Klein, Christine; Pramstaller, Peter P.; Kis, Bernhard; Page, Curtis C; Kann, Martin; Leung, Joanne; Woodward, Heather; Castellan, Claudio C; Scherer, Monika; Vieregge, Peter; Breakefield, Xandra O.; Kramer, Patricia L.; Ozelius, Laure J. (1)
CS (1) Molecular Genetics, AECOM, 1300 Morris Park Avenue, Bronx, NY, 10461 USA
SO Annals of Neurology, (July, 2000) Vol 48, No 1, pp 65-71
print
ISSN 0364-5134
DT Article
LA English
SL English

AB A gene for autosomal recessive parkinsonism, ***PARK2*** (parkin), has recently been identified on chromosome 6q and shown to be mutated in Japanese and European families, mostly with early onset parkinsonism. Here we present a large pedigree from South Tyrol (a region of northern Italy) with adult-onset clinically typical tremor-dominant parkinsonism of apparently autosomal dominant inheritance. Haplotype analysis excluded linkage to the chromosome 2p, 4p, and 4q regions that harbor genes associated with autosomal dominant parkinsonism, but implicated the parkin locus on chromosome 6q. Compound heterozygous ***deletions*** in the parkin gene (one large and one truncating) were identified in 4 affected male siblings. The patients were clinically indistinguishable from most patients with idiopathic Parkinson's disease. None of them displayed any of the clinical hallmarks described in patients with previously reported parkin mutations, including diurnal fluctuations, benefit from sleep, foot dystonia, hyperreflexia, and early susceptibility to levodopa-induced dyskinesias. Two affected female individuals carried one (truncating) of the two ***deletions*** in a heterozygous state with an apparently normal allele. We conclude that the phenotypic spectrum associated with mutations in the parkin gene is broader than previously reported, suggesting that this gene may be important in the etiology of the more frequent late-onset typical Parkinson's disease.

L6 ANSWER 5 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC
AN 1999 227164 BIOSIS
DN PREV199900227164
TI A wide variety of mutations in the parkin gene are responsible for autosomal recessive parkinsonism in Europe
AU Abbas, Nacer, Lucking, Christoph B., Ricard, Sylvain, Durr, Alexandra, Bonifati, Vincenzo, De Michele, Giuseppe, Bouley, Sandrine, Vaughan, Jenny, R., Gasser, Thomas, Marconi, Roberto, Brousseau, Emmanuel, Brefel-Courbon, Christine, Harhangi, Biswadip, S., Oostra, Ben A., Fabrizio, Edito, Bohme, Georg A., Pradier, Laurent, Wood, Nick W., Filla, Alessandro, Meco, Giuseppe, Denefle, Patrice, Agid, Yves, Brice, Alexis
(1); French Parkinson's Disease Genetics Study Group, European Consortium on Genetic Susceptibility in Parkinson's Disease
CS, (1) INSERM U289, Hopital de la Salpetriere, 47 Boulevard de l'Hopital, 75651, Paris Cedex 13 France
SO Human Molecular Genetics (April, 1999) Vol. 8, No. 4, pp 567-574
ISSN 0964-6906
DT Article
LA English
SL English
AB Autosomal recessive juvenile parkinsonism (AR-JP, ***PARK2***). OMIM 602644, one of the monogenic forms of Parkinson's disease (PD), was initially described in Japan. It is characterized by early onset (before age 40), marked response to levodopa treatment and levodopa-induced dyskinesias. The gene responsible for AR-JP was recently identified and designated parkin. We have analysed the 12 coding exons of the parkin gene in 35 mostly European families with early onset autosomal recessive parkinsonism. In one family a homozygous ***deletion*** of exon 4 could be demonstrated. By direct sequencing of the exons in the index patients of the remaining 34 families, eight previously undescribed point mutations (homozygous or heterozygous) were detected in eight families

that included 20 patients. The mutations segregated with the disease in the families and were not detected on 110-166 control chromosomes. Four mutations caused truncation of the parkin protein. Three were frameshifts (202-203delAG, 255delA and 321-322insGT) and one a nonsense mutation (Trp453Stop). The other four were missense mutations (Lys16*Asn, Arg256Cys, Arg275Trp and Thr415Asn) that probably affect amino acids that are important for the function of the parkin protein, since they result in the same phenotype as truncating mutations or homozygous exon ***deletions***. Mean age at onset was 38 + 12 years but onset up to age 58 was observed. Mutations in the parkin gene are therefore not invariably associated with early onset parkinsonism. In many patients, the phenotype is indistinguishable from that of idiopathic PD. This study has shown that a wide variety of different mutations in the parkin gene are a common cause of autosomal recessive parkinsonism in Europe and that different types of point mutations seem to be more frequently responsible for the disease phenotype than are ***deletions***.

L6 ANSWER 5 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC
AN 1999 196872 BIOSIS
DN PREV199900196872
TI Chromosome 6-linked autosomal recessive early-onset Parkinsonism: Linkage in European and Algerian families, extension of the clinical spectrum, and evidence of a small homozygous ***deletion*** in one family
AU Tassin, Johann, Durr, Alexandra, de Broucker, Thomas, Abbas, Nacer, Bonifati, Vincenzo, De Michele, Giuseppe, Bonnet, Anne-Marie, Brousseau, Emmanuel, Pollak, Pierre, Vidailhet, Marie, De Mari, Michele, Marconi, Roberto, Medjeur, Soraya, Filla, Alessandro, Meco, Giuseppe, Agid, Yves, Brice, Alexis (1); The French Parkinson's Disease Genetics Study Group, The European Consortium on Genetic Susceptibility in Parkinson's Disease
CS (1) INSERM U289, Hopital de la Salpetriere, 47 bd de l'Hopital, 75651, Paris Cedex 13 France
SO American Journal of Human Genetics, (July, 1998) Vol. 63, No 1 pp 88-94
ISSN 0002-9297
DT Article
LA English
AB The gene for autosomal recessive juvenile Parkinsonism (AR-JP) recently has been mapped to chromosome 6q25 2-27 in Japanese families. We have tested one Algerian and 10 European multiplex families with early-onset Parkinson disease for linkage to this locus, with marker D6S305. Homogeneity analysis provided a conditional probability in favor of linkage of > 9 in eight families, which were analyzed further with eight micro-satellite markers spanning the 17-cM AR-JP region. Haplotype reconstruction for eight families and determination of the smallest region of homozygosity in two consanguineous families reduced the candidate interval to 11.3 cM. If the ***deletion*** of two microsatellite markers (D6S411 and D6S155C) that colocalize on the genetic map and that segregate with the disease in the Algerian family is taken into account, the candidate region would be reduced to < 1 cM. These findings should facilitate identification of the corresponding gene. We have confirmed linkage of AR-JP, in European families and in an Algerian family to the ***PARK2*** locus. ***PARK2*** appears to be an important locus for

AR-JP in European patients. The clinical spectrum of the disease in our families, with age at onset to 65 years and the presence of painful dystonia in some patients, is broader than that reported previously.

L6 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC
AN 1998 228246 BIOSIS
DN PREV199800228246
TI A microdeletion of D6S305 in a family of autosomal recessive juvenile parkinsonism (***PARK2***)
AU Matsumine, Hi-oto (1); Yamamura, Yasuhiro; Hattori, Nobutaka; Kobayashi, Tomonori; Kitada, Tohru; Yoritaka, Asako; Mizuno, Yoshikuni
CS (1) Dep. Neurol., Juntendo Univ. Sch. Med., 2-1-1 Hongo, Bunkyo, Tokyo 113
Japan
SO Genomics, (April 1, 1998) Vol. 49, No. 1, pp. 143-146
ISSN 0888-7543
DT Article
LA English
AB A gene for autosomal recessive juvenile parkinsonism (ARJP). HGMW-approved symbol ***PARK2*** (MIM 600116) has recently been mapped to a 17-cM interval on chromosome 6q25.2-q27. We here report an inbred family with ARJP showing a perfect cosegregation with null allele for D6S305, which is a marker within the ARJP locus. We assigned the ***deletion*** within an interval between D6S1937 and AFM155td9, which are 0 cM apart from each other and located on a single YAC clone. Two possibilities should be evaluated: (1) the ***deletion*** is polymorphic and linked to ARJP and (2) the ***deletion*** is pathogenic and contains both D6S305 and the ARJP gene (or a part of it). An exon search in a ***deleted*** segment or in the relatively small-sized genomic clones harboring D6S305 may enormously facilitate the cloning procedure of the ARJP gene.

L6 ANSWER 7 OF 13 EMBASE COPYRIGHT 2003 ELSEVIER SCI B V
AN 2002034266 EMBASE
TI Genetic risk factors. Session V summary and research needs
AU Farrer, M.; Richfield, E.
CS M. Farrer, Department of Neuroscience, Center for Neuroscience, Mayo Clinic, Jacksonville, FL 32224, United States
farrer.matthew@mayo.edu
SO NeuroToxicology, (2001) 22/6 (845-848)
Refs 23
ISSN 0161-813X CODEN NRTXDN
PUI S 0161-813X(01)00087-0
CY Netherlands
DT Journal, Conference Article
FS 008 Neurology and Neurosurgery
022 Human Genetics
037 Drug Literature Index
LA English
SL English
AB The interaction between genetic predisposition, environmental exposure, and age are well recognized in contributing to human Parkinsonism. However, the relative importance of each of those factors in any given case is difficult to ascertain. This session was devoted toward identifying and exploring genetic risk factors in contributing to human Parkinsonism. Clues arising from cases with familial Parkinsonism are proving useful in identifying the biochemical pathways perturbed in idiopathic Parkinson's disease. Genetic risk factors are identified in families through a variety of methods. Once a specific gene is identified, a variety of tools can be used to understand the role of a particular mutation or possible roles for the wild-type form of the protein in contributing to human Parkinsonism. This session had three presentations: the first presentation dealt with identifying genes in human Parkinson's

disease and exploring their functional effects. The second presentation examined the use of ***transgenic*** mouse models for understanding the role of gene products in developing Parkinson's disease and how those models may be used for the development of new treatments. The final talk examined the role of mitochondrial abnormalities leading to electron transport deficits in Parkinson's disease and how genes and the environment may interact. The final talk also examined potential interventions that may help alleviate functional deficits related to mitochondrial impairments. Role of Genes in Parkinson's Disease Dr. Matthew Farrer detailed the search for familial mutations that contribute to Parkinsonism. He opened his presentation by highlighting the difficulty in proving a role for environmental exposures in disposing to idiopathic Parkinson's disease. To date, rural living, well water consumption, smoking and caffeine intake most reliably have an effect on risk. However, in many studies the effects are small and confidence intervals may overlap. Thus, despite intensive epidemiological study the field has been left with little direction. That is, until now, Farrer highlighted the rapid pace of identification of genetic mutations contributing to different types of Parkinsonism. Currently, at least eight genetic loci (Park 1 through Park 8) are known (see Farrer et al., 1999a,b; Polymeropoulos, 1997; Kitada, 1998; Periquet et al., 2001; Gasser, 1998; Leroy, 1998a,b; Hutton, 1998; Kruger, 1998; Spillantini et al., 1998; Steinbergsdottir, 2000; Van Duijn et al., 2001; Valente et al., 2001; Masliah et al., 2001; Hsu et al., 2000; Takeda et al., 2000; Haas et al., 2001; Shults et al., 1995, 1997, 1998, 1999; Haas et al., 1995). Park 1, is an autosomal dominant locus at 4q21 originally described in the Contursi kindred. In 1997, affected individuals were shown to harbor an A1a53Thr mutation in the alpha-synuclein gene. In 1998, an A1a30Pro alpha-synuclein mutation was subsequently found in a family of German origin. Many other talks during this meeting focused on the mechanism of action and roles for alpha-synuclein in contributing to idiopathic Parkinson's disease. Recessively inherited juvenile and early onset Parkinsonism may be due to Park 2 mutations. The gene affected is located at the tip of chromosome 6q25.2-q27 and encodes Parkin, a novel E3 protein ligase. Less emphasis was placed on Parkin mutations at this meeting, although their role in both juvenile Parkinsonism without Lewy body pathology and now later-onset seemingly sporadic disease is becoming better understood. Mutations probably account for around 50% of familial, recessive Parkinsonism with onset <45 years and 18% of seemingly sporadic cases. Parks 3 and 4 have been mapped in rare families with dominant inheritance patterns, albeit with reduced penetrance for disease. Park 3 has onset typical for sporadic Parkinson's disease, and is located at 2p13. Park 4 implicates a genetic mutation in early onset Parkinsonism-dementia on chromosome 4p15. For Park 5 located at 4p14, the inheritance pattern is unclear although both Ile93Met and Met124Leu ubiquitin carboxyterminal hydrolase (UCHL1) mutations have been implicated in familial disease and a Ser18Tyr polymorphism is inversely associated with risk for sporadic disease. Parks 6 and 7 are recessive and located at 1p35-p36 and 1p36 respectively. Both regions were mapped in consanguineous kindreds with relatively early onset.

Parkinson's disease and Park 6 like Park 2 may account for disease in multiple families. Chromosome 1p32 has been recently mapped in the Icelandic population to late-onset Parkinson's disease and has tentatively been assigned as Park 8. Dr. Farrer went on to present data outlining the mechanism of action for some of these proteins implicated by genetic studies and how the mutations may predispose to Parkinson's disease. He emphasized the need and importance of further functional studies, presently in their infancy, to elucidate common pathways likely to be perturbed in both familial and sporadic Parkinson's disease. Cellular and animal models, now possible to create, are providing a new generation of research tools. Only on this background can hypotheses about the effects of common environmental agents be tested. Molecular knowledge and models will facilitate the development of novel interventions and rational drug design. By way of analogy, Farrer alluded to the tremendous success this approach has made in Alzheimer's disease. Dr. Farrer presented a web-site address for his work where investigators may obtain these new genetic research tools. Cloned wild-type and mutant genes that cause familial Parkinsonism can be ordered directly from the web-site. There are no restrictions on use and they are available at no cost to academic investigators. The web-site address is www.mayo.edu/fpd/, an effort presently supported by both NINDS and the Mayo Foundation. This site contains recent information about both the Mayo Clinic Jacksonville research efforts. It also contains links to other sites related to Parkinson's disease.

L6 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2002 965737 CAPLUS
TI Parkin mutations (***Park2***)
AU Mizuno, Yoshikuni, Hattori, Nobutaka, Yoshino, Hiroyo, Asakawa, Shiuchi, Minoshima, Shinsei, Shimizu, Nobuyoshi, Suzuki, Toshiaki, Chita, Tomoki, Tanaka, Keiji
C.S. Department of Neurology, Juntendo University School of Medicine, Tokyo, 113-8421, Japan
SO Genetics of Movement Disorders (2003) 305-314 Editor(s) Pulszt, Stefan-M Publisher: Academic Press San Diego, Calif. CODEN 69DIVT, ISBN 0-12-566652-7
DT Conference
LA English
AB ***Park2*** (autosomal recessive juvenile parkinsonism, AR-JP) presents young-onset parkinsonism, consisting of gait disturbance, rest tremor, cogwheel rigidity, and bradykinesia. Clin. features are essentially similar to those of late-onset sporadic Parkinson's disease. They respond to levodopa well. Progression is slow. Pathol. features include extensive nigral and locus caeruleus degeneration and gliosis without Lewy body formation. The disease gene has been identified and named parkin which is located on the long arm of chromosome 6 at 6q25-27.2 Varieties of ***deletion*** mutations and point mutations of parkin have been found in patients with ***Park2***. Also compd heterozygotes were found. Parkin protein functions as a ubiquitin ligase and a no. of candidate substrates for Parkin have been reported including CDCrel 1, alpha-synuclein 22, Pael receptor, synphilin-1 and CDCrel 2A. Accumulation of one or more of the candidate substrates appears to be the cause of nigral degeneration ***Transgenic*** and ***knock***. ***out*** animals of parkin have not been reported in the literature.

Park2 has been considered to represent the most common form of familial Parkinson's disease. (c) 2003 Academic Press
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FCR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2001 517915 CAPLUS
DN 136 245209
TI Analysis of genetic mutation in the 6q25.3 region in breast cancer
AU Franco, Akira, Utada, Takahito, Nagai, Hisao, Haga, Shunsuke, Kajiwara, Tetsuro, Kasumi, Fujio, Sakamoto, Goi, Nakamura, Yusuke, Emi, Mitsu
C.S. Affiliated Second Hospital, Department of Surgery, Tokyo Women's Medical College, Arakawa-ku, Tokyo, 116-8567, Japan
SO Niyugan Kiso Kenkyu (2001), 10: 27-30
CODEN 'NKEFA ISSN 1343-2028
PB Niyugan Kiso Kenkyukai
DT Journal
LA Japanese
AB Chromosomal ***deletion*** in breast cancer is analyzed by loss of heterozygosity. Loss of heterozygosity anal. reveals the commonly ***deletion*** region on chromosome 6 in breast cancer and detailed ***deletion*** mapping of chromosome 6 identifies 34 exons within the region. One of the exons perfectly matches with the exon 9 of the ***PARK2*** gene for parkinsonism, indicating the presence of the ***PARK2*** gene at chromosome 6q25.3. These results demonstrate the possible role of the ***PARK2*** gene as a tumor suppressor gene in breast cancer.

L6 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2001 487635 CAPLUS
DN 136 83991
TI Parkin gene causing benign autosomal recessive juvenile parkinsonism
AU Hsiepeau, P., Inzelberg, R., Mouch, S., Abo, Carasso, R., L., Blumen, S., C. Zhang, J., Matsumine, H., Hattori, N., Mizuno, Y.
C.S. Department of Neurology, Hillel Yaffe Medical Center, Hadera 38100, Israel
SO Neurology (2001), 56(11), 1573-1575
CODEN NEURAI ISSN 0028-3878
PB Lippincott Williams & Wilkins
DT Journal
LA English
AB Autosomal recessive juvenile parkinsonism (AR-JP) is an early-onset set parkinsonism caused by exonic ***deletions*** or point mutations in the parkin gene. The relationship between the type of the genetic defect and the clin. presentation, the response to therapy, and the evolution have not been yet detd. The authors describe a single-basepair ***deletion*** at nucleotide 202 in exon 2 of the parkin gene in a kindred with a benign clin. course.
RE C.R.T. 10 THERE ARE 10 CITED REFERENCES AVAILABLE
FCR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2001 382045 CAPLUS
DN 136 113296
TI Autosomal recessive juvenile parkinsonism (AR-JP): Genetic diagnosis
AU Matsumine, Hiroto, Hattori, Nobutaka, Mizuno, Yoshikuni
C.S. Department of Neurology, Juntendo University School of Medicine, Tokyo, Japan
SO Methods in Molecular Medicine (2001), 62(Parkinson's Disease), 13-29
CODEN MMMEFN
PB Humana Press Inc
DT Journal
LA English
AB The autosomal recessive juvenile parkinsonism (AR-JP) is linked to the 17-cM region on chromosome 6q25.2-27 and the locus is designated

Park2 Parkin is the responsible gene for the disease. Abnormalities in this gene which are specific for AR-JP include homozygous exonic ***deletions*** small ***deletions*** and point mutations. The presence of homozygous exonic ***deletions*** supports the notion that nigral neurodegeneration in AR-JP is caused by loss of function of the parkin protein. The anal. of mutations in the parkin gene is also presented.

RE CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2001 167694 CAPLUS
DN 134 203465

TI Mouse park n2 cDNA and protein sequences for a ***transgenic*** animal model of Parkinson's and neurodegenerative diseases

IN Lubbert, Hermann

PA Biofrontiera Pharmaceuticals G m b H, Germany

SO Eur Pat Appl, 62 pp

CODEN EPXXDW

DT Patent

LA English

FAN CNT 1

PATENT NO KIND DATE APPLICATION NO DATE

PI EP 1081225 A1 20010307 EP 1999-116766

19990830

R AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO

WO 2001016176 A2 20010308 WO 2000-EP8071
20000818

WO 2001016176 A3 20010927

W CA, JP, US

RW AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU
MC, NL,

PT, SE

EP 1208200 A2 20020529 EP 2000-956461

20000818

R AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, FI, CY

PRAI EP 1999-116766 A 19990830

WO 2000-EP8071 W 20000818

AB This patent application claims mouse gene mPark2 (parkin2) nucleotide and protein sequences with mutations or ***deletions*** which correspond to mutations in the human gene ***PARK2*** (parkin2) sequences that

cause Parkinson's disease. The application claims use of polynucleotide and protein sequences for diagnosis. The application also claims the

construction of a ***transgenic*** non-human animal contg. a mutated

DNA sequence and therefore expressing no or a less active or non-active

parkin protein. The patent application further claims use of ***transgenic*** animals as a model for neurodegenerative diseases. The

transgenic animals can be used for screening therapeutic agents, evaluating treatments, and examg. disease pathol., and bred for other studies

RE CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2003 ACS
AN 2000 297432 CAPLUS
DN 133 220862

TI Progress in the clinical and molecular genetics of familial parkinsonism

AU Kitada, Tohru, Asakawa, Shuichi, Matsumine, Hiroto, Hattori, Nobutaka, Shimura, Hideki, Minoshima, Shinsei, Shimizu, Nobuyoshi, Mizuno, Yoshikuni

CS Department of Neurology Juntendo University School of Medicine, Tokyo, 113-8421, Japan

SO Neurogenetics (2000) 2(4), 207-218

CODEN NEROX, ISSN 1364-6745

PB Springer-Verlag

DT Journal, General Review

LA English

AB A review, with 106 refs. Parkinson's disease (PD) is a neurodegenerative disease with clin. features resulting from ***deficiency*** of dopamine in the nigrostriatal system. Most PD cases are sporadic and the primary cause of the disease is still unknown. Recently, familial

PD and parkinsonism have received much attention because these forms of the disease might provide clues to the genetic risk factors involved in the

pathogenesis of idiopathic PD. To date, two causative genes, alpha-synuclein and the parkin gene, have been identified. alpha-Synuclein is involved in the pathogenesis of an autosomal dominant

form of PD and constitutes a major component of the Lewy body, which is a pathol. hallmark of idiopathic PD. In addn. mutations in the parkin gene

have been identified as the cause of autosomal recessive juvenile parkinsonism (AR-JP). AR-JP manifests itself as a highly selective degeneration of the substantia nigra and the locus caeruleus, but without

Lewy body formation. In addn. to these two genes, four chromosomal loci

have been linked to other forms of familial PD. Furthermore there are a few other pedigrees of familial PD in which linkage to known genetic

loci has been excluded. Mol. cloning of these disease genes and elucidation of the function of their gene products will greatly contribute

to the understanding of the pathogenesis of idiopathic PD.

RE CNT 106 THERE ARE 106 CITED REFERENCES

AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 17 29 29 ON 16 JAN 2003)

FILE 'BIOSIS EMBASE, CAPLUS' ENTERED AT 17 29 41 ON 16 JAN 2003

L1 822 S PARKIN OR PARKIN2

L2 172 S L1 AND (TRANSGEN? OR KNOCKOUT OR KNOCK OUT OR DELET? OR DEFIC

L3 1 S PARKIN2

L4 54 S PARK2

L5 32 DUP REM L4 (22 DUPLICATES REMOVED)

L6 13 S L5 AND (TRANSGEN? OR KNOCKOUT OR KNOCK OUT OR DELET? OR DEFIC

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PROCESSING COMPLETED FOR L2

L7 105 DUP REM L2 (67 DUPLICATES REMOVED)

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L8 22 L2 AND PY<1999

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L8 ANSWER 1 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC

AB Autosomal recessive juvenile parkinsonism (AR-JP) is a distinct clinica

and genetic entity characterized by selective degeneration of nigral dopaminergic neurons and young-onset parkinsonism with remarkable response

to levodopa. Recently, we mapped the gene locus for AR-JP to chromosome

6q25.2-q27 by linkage analysis and we identified a novel large gene

Parkin, consisting of 12 exons from this region, mutations of this gene were found to be the cause of AR-JP in two families. Now we report

results of extensive molecular analysis on 34 affected individuals from 18 unrelated families with AR-JP. We found four different homozygous

intragenic ***deletional*** mutations involving exons 3 to 4 exon 3, exon 4, and exon 5 in 10 families (17 affected individuals). In addition to the exonic ***deletions*** we identified a novel one-base ***deletion*** involving exon 5 in two families (2 affected individuals). All mutations so far found were ***deletional*** types in which large exonic ***deletion*** accounted for 50% (17 of 34) and the one-base ***deletion*** accounted for 6% (2/34), in the remaining, no homozygous mutations were found in the coding regions. Our findings indicate that loss of function of the ***Parkin*** protein results in the clinical phenotype of AR-JP and that subregions between introns 2 and 5 of the ***Parkin*** gene are mutational hot spots.

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(FILE 'HOME' ENTERED AT 17 29 29 ON 16 JAN 2003)

FILE 'BIOSIS EMBASE, CAPLUS ENTERED AT 17 29 41 ON 16 JAN 2003
L1 822 S PARKIN OR PARKIN2
L2 172 S L1 AND (TRANSGEN? OR KNOCKOUT OR KNOCK OUT OR DELET? OR DEFIC
L3 1 S PARKIN2
L4 54 S PARK2
L5 32 DUP REM L4 (22 DUPLICATES REMOVED;
L6 13 S L5 A'ND (TRANSGEN? OR KNOCKOUT CR KNOCK OUT OR DELET? CR DEFIC
L7 105 DUP REM L2 (67 DUPLICATES REMOVED)
L8 22 S L2 AND PY<1999

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<i>side by side</i>			
DB	USPT,PGPB,JPAB,DWPI; PLUR YES; OP ADJ		
L6	l5 and (transgen\$ or knockout or knock out or knock-out or delet\$ or deficien\$)	29	L6
L5	l4 or l2	34	L5
L4	l1 near3 (gene or protein)	17	L4
L3	l2 and (transgen\$ or knockout or knock out or knock-out or delet\$ or deficien\$)	26	L3
L2	l1 and parkinson disease	29	L2
L1	Parkin or parkin2	1958	L1

END OF SEARCH HISTORY